1. Solve the quadratic equation below. Then, choose the intervals that the solutions belong to, with $x_1 \leq x_2$ (if they exist).

$$-14x^2 + 8x + 4 = 0$$

A. $x_1 \in [-17.37, -16.32]$ and $x_2 \in [17.17, 17.55]$

B. $x_1 \in [-12.56, -11.5]$ and $x_2 \in [4.13, 5.1]$

C. $x_1 \in [-2.22, -0.67]$ and $x_2 \in [0.3, 0.6]$

D. $x_1 \in [-0.56, 0.35]$ and $x_2 \in [0.84, 0.98]$

E. There are no Real solutions.

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2. Factor the quadratic below. Then, choose the intervals that contain the constants in the form $(ax + b)(cx + d); b \leq d$.

$$81x^2 + 63x + 10$$

A. $a \in [0.6, 1.3], \quad b \in [15, 25], \quad c \in [-2.1, 2.5],$ and $\quad d \in [45, 47]$

B. $a \in [7.3, 10.1], \quad b \in [-1, 10], \quad c \in [8.6, 11.1],$ and $\quad d \in [5, 11]$

C. $a \in [1.4, 4.9], \quad b \in [-1, 10], \quad c \in [26.6, 27.6],$ and $\quad d \in [5, 11]$

D. $a \in [24.5, 28.4], \quad b \in [-1, 10], \quad c \in [2.7, 5.4],$ and $\quad d \in [5, 11]$

E. None of the above.

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3. Solve the quadratic equation below. Then, choose the intervals that the solutions x_1 and x_2 belong to, with $x_1 \leq x_2$.

$$15x^2 + 38x + 24 = 0$$

A. $x_1 \in [-2.92, -2.14]$ and $x_2 \in [-0.68, -0.45]$

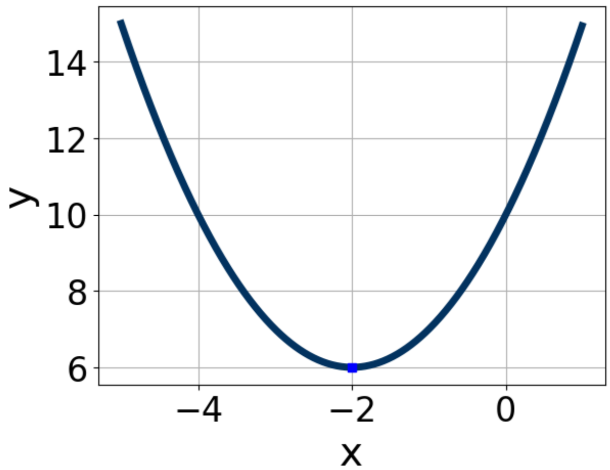
B. $x_1 \in [-4.68, -3.59]$ and $x_2 \in [-0.46, -0.32]$

C. $x_1 \in [-20.65, -19.41]$ and $x_2 \in [-18.09, -17.93]$

D. $x_1 \in [-6.19, -4.51]$ and $x_2 \in [-0.33, -0.22]$

E. $x_1 \in [-2.35, -0.81]$ and $x_2 \in [-1.29, -1.03]$

4. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that $a, b,$ and c belong to.



A. $a \in [0, 1.4], \quad b \in [3, 5], \text{ and } \quad c \in [9, 11]$

B. $a \in [0, 1.4], \quad b \in [-4, 1], \text{ and } \quad c \in [-2, 0]$

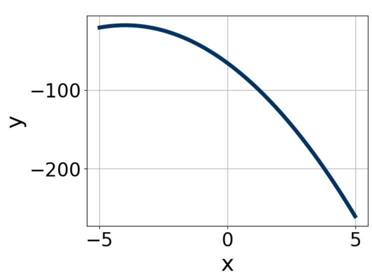
C. $a \in [0, 1.4], \quad b \in [-4, 1], \text{ and } \quad c \in [9, 11]$

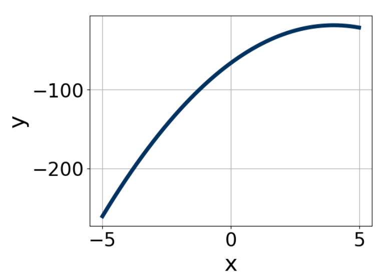
D. $a \in [-1.2, -0.3], \quad b \in [3, 5], \text{ and } \quad c \in [0, 3]$

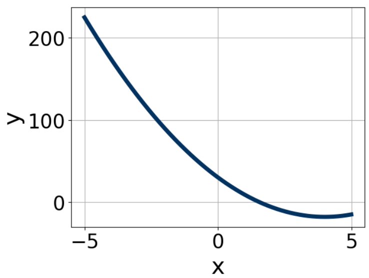
E. $a \in [-1.2, -0.3], \quad b \in [-4, 1], \text{ and } \quad c \in [0, 3]$

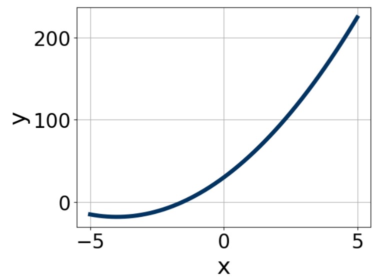
5. Graph the equation below.

$$f(x) = (x + 4)^2 - 18$$

A. 

B. 

C. 

D. 

E. None of the above.

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6. Solve the quadratic equation below. Then, choose the intervals that the solutions x_1 and x_2 belong to, with $x_1 \leq x_2$.

$$20x^2 + 21x - 54 = 0$$

A. $x_1 \in [-9.03, -8.19]$ and $x_2 \in [0.16, 0.33]$

B. $x_1 \in [-7.24, -6.62]$ and $x_2 \in [0.31, 0.5]$

C. $x_1 \in [-3.06, -1.47]$ and $x_2 \in [1.19, 1.28]$

D. $x_1 \in [-45.82, -44.88]$ and $x_2 \in [23.87, 24.13]$

E. $x_1 \in [-1.66, -0.65]$ and $x_2 \in [3.46, 3.66]$

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7. Factor the quadratic below. Then, choose the intervals that contain the constants in the form $(ax + b)(cx + d); b \leq d$.

$$36x^2 - 60x + 25$$

A. $a \in [5.8, 7.1], \quad b \in [-10, -3], \quad c \in [3.5, 8.9], \text{ and } \quad d \in [-8, -4]$

B. $a \in [0.3, 1.9], \quad b \in [-30, -26], \quad c \in [0.5, 2.4], \text{ and } \quad d \in [-37, -24]$

C. $a \in [9.1, 15.3], \quad b \in [-10, -3], \quad c \in [2, 4.3], \text{ and } \quad d \in [-8, -4]$

D. $a \in [1.1, 4.1], \quad b \in [-10, -3], \quad c \in [11, 13], \text{ and } \quad d \in [-8, -4]$

E. None of the above.

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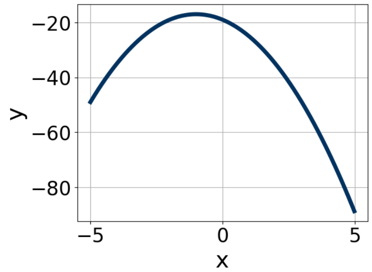
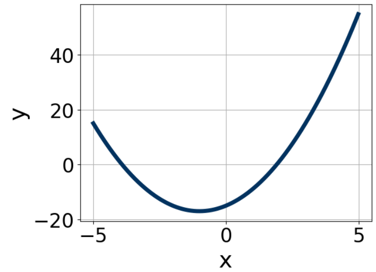
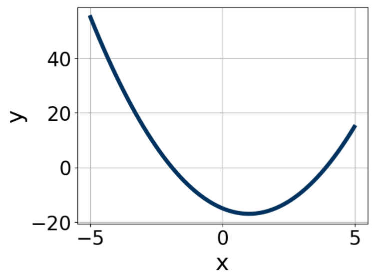
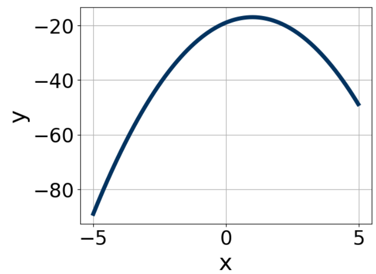
8. Graph the equation below.

$$f(x) = (x+1)^2 - 17$$

A. 

C. 

B. 

D. 

E. None of the above.

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9. Solve the quadratic equation below. Then, choose the intervals that the solutions belong to, with $x_1 \leq x_2$ (if they exist).

$$13x^2 + 14x - 2 = 0$$

A. $x_1 \in [-0.8, 1.1]$ and $x_2 \in [0.93, 1.6]$

B. $x_1 \in [-16.6, -14.7]$ and $x_2 \in [1.66, 1.89]$

C. $x_1 \in [-3, -0.6]$ and $x_2 \in [-0.31, 0.41]$

D. $x_1 \in [-18, -16.5]$ and $x_2 \in [16.38, 17]$

E. There are no Real solutions.

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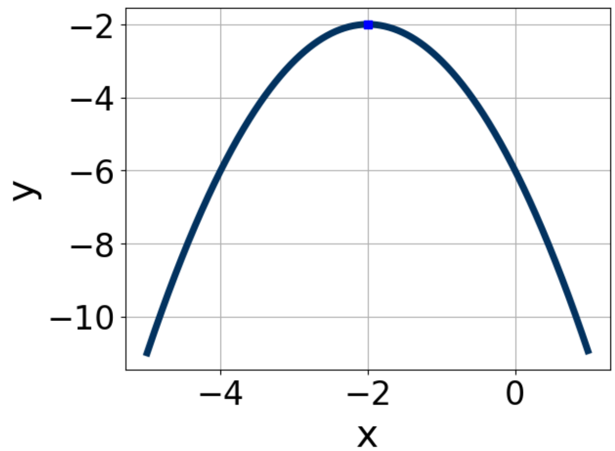
10. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that $a, b,$ and c belong to.



A. $a \in [-0.2, 1.5], \quad b \in [2, 6], \text{ and } \quad c \in [2, 5]$

B. $a \in [-2.7, 0.9], \quad b \in [-6, -2], \text{ and } \quad c \in [-9, -5]$

C. $a \in [-0.2, 1.5], \quad b \in [-6, -2], \text{ and } \quad c \in [2, 5]$

D. $a \in [-2.7, 0.9], \quad b \in [2, 6], \text{ and } \quad c \in [-3, -1]$

E. $a \in [-2.7, 0.9], \quad b \in [2, 6], \text{ and } \quad c \in [-9, -5]$